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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

AUG 3 1929

REPORT FOR THE WEEK ENDING AUGUST 3, 1929.

JUDITH BASIN:

July ended warm and dry with warm winds occurring often. The maximum temperature was 99 on the 24th. The mean maximum temperature was 90 degrees for the last two weeks of the month. There were nine days during the month when the temperature was above 90 degrees. Only .62 of an inch precipitation was recorded during the month compared to a normal of 1.82 inches. This drought following June, which was 1.37 inches lower than normal for moisture, made a severe test for spring seeded crops. A shower on the 2nd amounting to .23 inch cooled the atmosphere and refreshed crops. Many fields are too far advanced to benefit from this shower.

Winter wheat has been cut on the rotations, tillage, varietal and increase fields. Fairly good yields will be obtained from the better methods. Combining commenced in the basin with fair to good yields being reported.

Early oats and barley are harvested. Yields will be low on the poorer methods and only fair on the best fields. Spring wheat yields will be reduced by the drought with good summer fallow showing a decided advantage.

Cows in the pasture experiments have been transferred to the sweet clover lots. This crop has demonstrated double the carrying capacity of the grass pastures.

Visitors included Mr. R. W. Leukel, from Washington, and Mr. S. S. Sutherland and Mr. R. B. Bowder, of the Montana Experiment Station.

Maximum temperature 94; minimum 46; precipitation .27 inch.

HUNTLEY:

Cloudy and cooler weather during the past week have brought some relief to crops suffering from drought. Corn and sorgo have freshened up slightly but potatoes and beans are still more or less wilted. A light shower occurred during the night of August 1.

HUNTLEY, continued:

Precipitation for the past month amounted to .49 inch making it one of the driest Julys on record at this station. This lack of rainfall together with the rather prolonged period of hot weather has been particularly trying to crops already handicapped by the late start made in the spring.

Combine harvesting of winter wheat was started during the past week. Yields on farms in the neighborhood of the station have been running from 15 to 25 bushels to the acre and the protein content has been about 14 per cent.
Maximum temperature 97; minimum 44; precipitation .07 inch.

SHERIDAN:

There was some cloudiness and the weather was slightly cooler over a part of the week than the week before. Spring grain ripened fast, much of the wheat apparently simply drying up instead of filling and ripening normally. The remainder of the winter wheat, oats, and barley in the rotations, and other early seedings of oats and barley were harvested. Corn seems to be standing up fairly well yet, although curled badly during the day. Second growth alfalfa was cut and hauled.

The annual picnic was held on the station August 29. There was a fair attendance. Mr. W. L. Quayle, from Laramie, was at the station, and was among the speakers at the picnic.
Maximum temperature 99; minimum 42; precipitation .01 inch.

DICKINSON:

Cooler weather during most of the week was more favorable for maturity of grains than was the extreme heat of the previous week. Wheat has matured slowly and appears to be filled better than seemed possible a short time ago. Cutting of wheat has started on farms in the locality.

A seepage basin was completed and connection made with the new septic tank.

Field pea varieties, grains for hay, and the grass nursery were harvested. On the cereal project, winter rye and early varieties of oats and wheat were cut.

DICKINSON, continued:

Visitors during the week were Mr. G. J. Ikenberry, Associate Professor of Botany, North Dakota Experiment Station, Mr. R. W. Leukel, Associate Pathologist, Mr. Carl Quisenberry, Associate Agronomist, Cereal Crop and Diseases and Mr, R. L. Shotwell, Associate Entomologist. A party of Russians consisting of Professors M. M. Wolf, S. G. Ujansky, V. N. Loubianko, N. A. Burianenko, Agronomists and Economists of Moscow, and Mr. A. Frees, interperter, of New York, visited the station on August 3.

Maximum temperature 98; minimum 42; precipitation .03 inch.

MANDAN:

Agronomy

The hot, dry weather was broken by lower temperatures and showers during the week. There were only two hot days during the week.

The hot weather of last week ripened all grains prematurely, and harvest started the first of the week. Crested wheat grass for seed was cut first. Wheat has been cut in the rotations and most of the oats will be finished to-day. The crops will be light, but yields will be much higher than seemed possible 10 days ago. Wheat will be shrunken and light in weight per bushel. Yields of wheat in the rotations will run from nothing to 15 or 20 bushels per acre. Many of the fall plowed plots will be failures.

Corn still stands a chance of making a crop, provided a good rain comes soon. Many of the corn leaves are fired. Corn is much poorer on fall plowing than on spring plowing.

The total rainfall for July was 1.20 inches, compared with the normal of 2.33 inches. The precipitation for the year to July 31, inclusive, is 9.20 inches compared with the normal of 11.70 inches.

Maximum temperature 102; minimum 50; precipitation .24 inch.

MANDAN, continued:

Cooperative Grazing Experiment

Grass in the pastures is badly dried up. The 30-acre pasture is completely grazed down and the cattle cannot remain on it many more days.

Most of the cattle made good gains during July. Individual steers in the 30-acre pasture gained from nothing to 80 pounds per head. The brome-grass steers were all in the 10-acre pasture of brome (formerly sweet clover) during July. A good deal of the grass hardened up, but the cattle stripped most of the heads off, so not much of it will scatter seed. This 10-acres contained several times the amount of feed than did the regular brome-grass pasture.

The cattle made the following gains during July and for the season to date:

Pasture	No. steers	Pounds gain per head	
		July	75 days
100-acres	10	84.5	250.5
70-acres	10	84.5	251.5
50-acres	10	85.0	241.0
30-acres	10	38.5	145.0
Rot. (70) acres	14	59.3	201.1
Brome (25) acres	8*	48.1	212.5
Brome (10) acres	4	68.8	241.3

* On the 10-acre brome pasture during July.

Horticulture

Golden currants (Ribes odoratum) are now being picked. Fair to good yields are being obtained in spite of the continued dry weather. A number of selections have been made from the seedling blocks.

Chinese cherries are also ripe now, and a few selections have been made. None of the selections are all that could be desired in regard to size. The dry weather has undoubtedly had some adverse influence on the size of the fruit.

MANDAN, continued:

Horticulture, continued.

Sandcherries are starting to ripen, but the fruit is generally small and of poor quality. The bushes are bearing heavy crops.

Hoeing in orchards and nurseries has been in progress throughout the week.

The recent torrid weather has caused a great deal of damage to vegetable crops. The early plantings of sweet corn are almost total failure, due to the drying up of tassels. The late plantings are also now beginning to shrivel, the entire plant seeming to be affected.

Tomatoes scalded badly; ripening the crop prematurely causing fruit of poor quality. The plants are still green and seemingly holding their own, but they fail to set any more fruit.

String beans are an almost total failure.

Root crops have come to a stand still in growth, and will be of poor quality.

Squash, pumpkins, melons, and cabbage, are still holding their own. The latter is of fair size and quality, and the main standby in garden products at the present time.

Roadways and lawns on the grounds are being trimmed. The Canna beds and Geraniums are now covered with bloom and making a good showing.

Visitors of the week included Messrs. R. L. Shotwell, Bureau of Entomology, W. R. Butler, Barberry Eradication, J. Allen Clark, Western Wheat Investigations, Carl S. Quisenberry and Elmer A. Ausemus, Cereal Crops and Diseases, H. R. Sumner, Secretary, Northwest Crop Improvement Association.

BELLE FOURCHE:

The past week as a whole has been somewhat cooler than the two preceding weeks. A few hot days occurred but they were interspersed with days of moderate temperatures. A strong wind has prevailed during most of the week, and the evaporation has been unusually high. Practically no precipitation was received, and the ground is cracking very badly.

All crops, except sorgo, continue to suffer from lack of moisture, but corn is withstanding the warm, drying weather much better than anticipated. Spring wheat is maturing very rapidly and some of the plots are ripe. Flax, and the remainder of the oats, barley, and winter wheat were harvested. Grasshoppers are very numerous and are beginning to do serious damage to corn and potatoes. Poisoned bait was distributed a couple of times during the week.

Maximum temperature 98; minimum 48; precipitation Trace.

ARDMORE:

Dry weather prevailed during the entire week, but the heat was not as extreme as in the previous week.

Corn is suffering severely and the fields will need to be cut for silage soon if the drought continues. Some of the fields are enduring the drought well and could produce ear corn on nearly fifty per cent of the stalks if rain comes soon. At least two of the fields are so badly damaged that there will be practically no ear corn produced. Corn on the plots in the rotations is in better condition than on the fields, but is commencing to fire. Most of the sorgo is still in good growing condition.

Threshing plots commenced on July 30. All oats, rye, winter wheat, barley plots, and all spring wheat except the delayed seeding, were threshed during the week. Variations in yield were extreme. Oats varied from 3.4 bushels per acre on alfalfa sod to 62.2 bushels per acre on fallow in Rotation 76. Wheat produced yields varying from 2.8 bushels per acre on Plot B of the M. C. Series to 31.7 bushels per acre on Rotation 63.

ARDMORE, continued:

Winter wheat yields ranged from total failure on Plot E of the M. C. Series to 24.5 bushels per acre on Plot D of the M. C. Series. Barley yields ranged from 4.8 bushels per acre on Plot E of the M. C. Series to 50.6 bushels per acre on Plot D of the M. C. Series. Average yields have not yet been tabulated.

All grain varieties except two plots of barley, and the flax were threshed during the week.

Harvesting of the flax plots and the delayed seeding wheat was completed on August 3.

Maximum temperature 99; minimum 50; precipitation 0.

CENTRAL GREAT PLAINS FIELD STATION:

The oats on Section 8 failed to head out and the crop has been cut for hay.

Thirty-seven and three quarter pounds of string beans were harvested from the vegetable garden and turned over to the mess on August 3.

Work on the headhouse has been suspended pending the receipt of insulating material. The concrete apron runway to the entrance at the west end has been finished; also concrete steps to the basement from the north entrance. The sites for the greenhouse proper have been brought up to the level of the headhouse floor.

The four-car garage in the rear of the messhouse is complete except for the doors and concrete floor. Framing a three-car garage in the rear of the staffhouse is under way.

A concrete retaining wall at the east entrance to the barn is finished. Concrete feed troughs and floor have been run in the cowbarn and the metal stanchions have been put in place.

The fencing gang has completed the new fence up the east side of Section 16 and across the north side, just below Roundtop, so this section is now entirely enclosed with a two-strand barb wire fence and 34 inch close mesh wire hog and cattle fence below the barbed wire.

CENTRAL GREAT PLAINS FIELD STATION, continued:

Mr. H. E. Allanson, Assistant Chief of Bureau of Plant Industry, spent July 29 at the station.

Maximum temperature 85; minimum 57; precipitation .13 inch.

ARCHER:

The temperatures have been somewhat lower this week than the preceding one. However, the weather has been dry with very low wind velocity. The wind velocity was so low that it became necessary to use a gasoline engine in order to get water. A shower of .21 of an inch occurred last night.

These conditions have hastened the ripening of the cereals. Some of the Dry-Land winter wheat plots and all the Dry-Land barley plots have been cut. Smyrna barley in the dairy field is being cut. The heavy part of the weeding has come to an end. The spraying of the white weed or Franseria Tomentosa has been in progress during the week. Sodium Chlorate and Calcium Chlorate are being used.

The 160 acres of land recently purchased by the University of Wyoming has been fenced and the dairy cattle turned into the much needed pasture.

Maximum temperature 87; minimum 53; precipitation .21 inch.

AKRON:

Rains were received early in the week, but on the whole the week has been favorable for field work. The weather has remained almost sultry hot with frequent showers throughout the adjacent territory. Needless to say this type of weather has been very favorable for corn, late potatoes, beans, sorgo, and millet, not to mention the weeds which remain an ever present problem here on the station.

July passed with a total rainfall of 4.44 inches, the fourth heaviest August rainfall within the 21 year's history of the station. This July rainfall goes a long way towards making up this year's rainfall deficiency but still below the average by better than a half an inch.

AKRON, continued:

The rotation stubble plots to be early fall plowed and disked were double disked early in the week around the shocked grain in an effort to conserve enough of the ample moisture for a good seed bed for this fall's seeded grain. The stubble plots of the different small grain experiments had already been duckfoot cultivatod about the shocked grain.

Threshing has been in progress most of the week with one team of two horses available for combatting weeds. The sheep rotation barley and winter wheat fields were threshed first, after which the rate and date winter wheat, the oat variety, the barley variety, and the winter wheat variety experiments.

Needless to say the yields are light. Barley on cornland on the sheep rotation fields yielded at the rate of 3.8 bushels and 4.3 bushels per acre. Winter wheat on the same project yielded at the rate of 6.3 bushels per acre on the pastured fallow and at the rate of 6.1 bushels per acre on the pastured rye. There was very little difference between yields on the rate and date winter wheat experiment, neither date of seeding or rate of seeding manifesting any appreciable difference. The fallow plots of this experiment ran from 10 to 14 bushels per acre while the cornland plots ran from about 6 to 9 bushels per acre. Oat varieties on fallow ran from about 12.5 to 36 bushels per acre while on cornland the variation ran from about 3 to 9 bushels per acre. It was clearly a fulghum season, Fulghum and Kanota, returning the highest yields on both fallow and cornland. Barley varieties on fallow ran from about 11 to 24 bushels per acre while on cornland the variation ran from about 1.5 to 6 bushels per acre. Among the barley varieties Club Mariout, Flynn, and Arequipa were the high yielders. The winter wheat variety experiment is being threshed to-day and no yields are available at this writing.

Mr. E. J. Maynard, of the Agricultural College, spent Thursday, August 1, at this station in the interest of livestock work.

Maximum temperature 94; minimum 53; precipitation .91 inch.

NORTH PLATTE:

No relief is as yet in sight from the hot, dry weather which has persisted through June and July. The July rainfall on the table was 1.02 inches, much of which came in isolated showers and quickly disappeared. Corn is now suffering acutely.

Threshing is well under way in this locality. Yields are for the most part in the 10 to 15 bushels per acre range and the quality only fair.

Threshing of D. L. A. plots was completed on July 29. A summary of yields is given below:

Winter Wheat

Previous Crop	Treatment	No. Plots	Bushels Per Acre
Small Grain	Late plow	8	12.0
Small Grain	Disk	11	13.3
Small Grain	Early plow	8	16.1
Corn		25	13.3
Potatoes		1	21.5
	S. Till	16	26.6
	G. Man	2	31.8
Spring Wheat			
Small Grain	S. Plow	2	12.1
Small Grain	E. fall plow	3	20.3
Sorghum	S. Plow	1	9.3
Corn		11	14.3
	S. Till	2	24.8
Oats			
Small Grain	S. Plow	9	22.2
Small Grain	Fall plow	16	34.8
Corn		19	30.0
Potatoes	Disk	4	41.4
	G. Man	6	42.0
	S. Till	5	49.4

NORTH PLATTE, continued:

Barley			
Small Grain	Disk	1	18.3
Small Grain	S. Plow	3	17.5
Small Grain	Fall plow	2	30.2
Corn	Disk	5	20.2
Milo	Disk	4	19.2
	S. Till	2	45.8

COLBY:

Threshing has been the order of the day for the entire week. All the threshing is finished, except a part of the winter wheat on the commercial field. That would have been finished to-day but for a .16 inch shower which fell last evening.

The winter wheat on the D. L. A. Project averaged 13.9 bushels. The test weight averaged about 53 pounds, while the protein content averaged 16.35 per cent. The yields ranged from 5 bushels on continuous stubbled in ground, 5.3 bushels on M. C. A. and 5.8 bushels on M. C. B. to 20.5 bushels on 557 A (fallow). The protein content ranged from 13.90 on the continuous stubbled in ground to 18.50 on M. C. B.

The averages are as follows:

Winter wheat	after fallow (30 plots)	14.6 bu.	16.84%protein.
" "	on cropped land(14 plots)	9.4 "	15.24% "
" "	on alternate row corn ground	12.3bu.	16.75% "
" "	on green manure	14.0 bu.	16.70% "
" "	early fall plowing (7")	7.8 "	17.05% "
" "	" " " (4")	9.0 "	14.50% "
" "	listing	9.5 "	14.20% "
" "	disked corn ground	10.8 "	15.68% "
" "	stubbled in in a rotation	11.3 "	14.10% "
" "	continuously stubbled in	5.0 "	13.90% "
" "	M. C. A. late fall plowed	5.3 "	16.65% "
" "	M. C. B. early fall plowed	5.8 "	18.50% "

COLBY, continued:

The yields of spring wheat ranged from 1.5 to 9.8 bushels. The barley yields ranged from 12.7 bushels to 51.7 bushels. The oats yields ranged from 5.0 bushels to 22.5 bushels.

Maximum temperature 104; minimum 62; precipitation .16 inch. Weather for July: Maximum temperature 103; minimum 51; precipitation 1.07 inches. The precipitation for the month is 1.57 inches below the average, making a deficit for the year to date of 1.58 inches.

GARDEN CITY:

Weather has been hot and dry. Some row crops are beginning to suffer from lack of moisture. A few are beginning to fire and roll. None have been hurt bad enough that they will not make good yields, provided enough rainfall occurs in the next two weeks The average rainfall for the past 21 years for the month of July at this station has been 2.53 inches. For the past month the total rainfall was 1.42 inches.

Milo is heading at this time. Some of the kafir plots are beginning to head. Corn is in full tassel. All row crops have made a good growth the past season.

Cultivation of roadways and alleyways has taken some time the past week. We started to curl down the lister ridges in lister planted plots but found the curler was destroying to many feeder roots.

General field work of combining and threshing has practically been completed in the neighborhood. Plowing of wheat seed beds is under way at the present time.

Maximum temperature 103; minimum 63; precipitation .60 inch.

HAYS:

The highest temperature during the season to date was recorded during the week.

Although the rainfall for the month of July was twice the normal for that month, and the last of a good series of rains occurred only ten days ago, row crops and sown feed crops, especially the latter, have been suffering from drought and heat during the last few days.

HAYS, continued:

However, it is not believed these crops are permanently injured, except in spots where the thick sown feed crops were wilted and were lodged by a light wind. The lodging was largely due to the wilted condition of the crop when the wind occurred.

Corn on the project is in tassel and the silks are appearing. Continued heat like that during the past few days will damage this crop. Kafir and milo is just beginning to head. The latter crop is suffering in spots because of chinchbugs. No other crop is suffering from this pest.

While the feed crops and alfalfa are suffering from drought, the wheat stubble land is only just dry enough to plow nicely, and it has been only a few days since the wheat fields were too soft for harvest machinery. Some harvesting was still being done up to within a few days ago. July rains were cause of the delay.

Field work during the week has consisted of cultivation of fallow and plowed plots for destruction of weeds, also cultivation of roads and alleys for the same purpose, and plowing, listing, chisseling and one-waying in the date-tillage experiment. Counting of stand of row crops and some soil sample work was also done during the week.

Maximum temperature 106; minimum 65; precipitation Trace.

TUCUMCARI:

Very little change has taken place in climatic conditions and crops the past week or two. Heading is taking place slowly, slight growth is being made, and suffering seems less acute on some plots, while on the less favored ones the plants are rolling to a greater extent, occasional plants are dying, and no apparent growth is being made. Variety corn seems in the most critical condition, for much of it is in tassel, while not over two feet tall. Milo is putting out small heads on many rotation plots and the first two date plantings. Rotation kafir is not yet heading.

TUCUMCARI, continued:

On a trip to Dalhart Sunday, July 28, is was noted conditions in that vicinity were much better than near Tucumcari. It is reported that drought is less severe all other directions from Tucumcari, also. The Dalhart station corps were in excellent condition and with average rainfall the next two months should make very high yields.

Work the past week has included mowing, hoeing and raking weeds in roadways and fence lines, plant counts, work of fallows, and odd jobs.

Maximum temperature 98; minimum 65; precipitation .25 inch.

Evaporation 2.212 inches.

The following indicates the severity of the present drought:

	Jan. 1-Aug.3	Apr. 1-Aug. 3	May 12-Aug.3
24-year average	10.25"	8.74"	6.32"
1929	6.60	4.19	1.54
Deficiency	3.65	4.55	4.32

DALHART:

While no precipitation of consequence was received during the week the sorghums have not suffered appreciably from lack of moisture. The corn has not fared so well. Many burned tops show in the corn. This is at a rather critical stage for the corn also as it is tasselling and silking at the present time. Sorghum head emergence is taking place now with the exception of the late dates and the later kafirs. All of the milo plots are showing some head emergence. The kafir is hardly that for advanced except on the earlier dates.

Field work accomplished during the week included some bagging of sorghums, weed killing, cutting of Sudan grass plots in rotations and varieties, cutting of two varieties of cowpeas in the cowpea variety test, plowing under Sudan for green manure, and some miscellaneous odd jobs. The sorghums were all rogued during the week, some for the second and third time. A good rain is needed for the sorghums and corn.

Visitors during the week included Mr. D. R. Burnham, of the Tucumcari Field Station.

DALHART, continued:

Attention was called during the week to a field of wheat that had been damaged by weevil in the field before it was cut. A species of army worms were also studied that are relatively thick on range land but not so severe on cropped areas.

Maximum temperature 99; minimum 57; precipitation .18 inch. Wind velocity 5.3 miles per hour; evaporation 2.406 inches. Precipitation for July 1.60 inches. This shows a deficiency for July of about .90 inch and brings the yearly deficiency to August 1 to approximately 1.70 inches below the 24-year average.

BIG SPRING:

Although several light showers totaling .65 inch have been received during this time, none of them were of sufficient amount to soak up the soil. As a result the feed crops are beginning to suffer; some of the kafir in the rotations is rolling considerably and will be injured materially in a short time if rain is not received soon. Milo, which was planted somewhat later than the kafir, seems to be standing up somewhat better.

Cotton seems to be growing well at present, but it is starting to shed considerably; this condition is presumably due to dry weather.

Sudan grass was harvested from the rotations, variety, and first three date plots; an increase block was also cut; a fair crop of good quality hay will be obtained. Catjang, Early Buff, and Black-eye cowpea varieties were harvested for hay, and a plot of each was picked for seed. Other work has consisted of picking peaches, plums, and grapes, and in hoeing weeds out of plots and roadways.

Maximum temperature 101; minimum 62; precipitation .65 inch.

WOODWARD:

Weather during the past week has been very hot and dry. Maximum temperatures have ranged from 100 to 105 practically every day; and with no rain and low humidity, crops particularly corn and sorghums with head in the boot stage, are suffering somewhat. Also, fruits are not maturing normally.

Station work consisted of binding Sudan Grass on plots, cultivating fallows, working down with two-row cultivator wheat and rye plots that had been listed, and hoeing out scattering weeds in field crops. Manure was spread in the orchard, nursery hoed and watered, and new water lines installed to take care of shrubbery, lawns, etc. A variety of fruit was picked, including apples, peaches, plums, nectarines, and a few of the earlier varieties of grapes.

Maximum temperature 105; minimum 71; precipitation none.
Wind velocity 7.5 miles per hour; evaporation 3.081 inches.

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REPORT FOR THE WEEK ENDING AUGUST 10, 1929.

JUDITH BASIN:

Good harvest weather with normal temperatures and very little precipitation has characterized the past week. Combining of winter wheat is general in all sectionsof the Basin. Average yields are being obtained from this crop. All spring grains are maturing rapidly with low yields being in prospect.

Winter wheat was threshed at the station with average yields for this crop being obtained. Wide differences in yield were shown from the poorer methods. All the early oats have been threshed. Yields are below average for this crop as the warm, dry weather hurried maturity of same. Barley is harvested and spring wheat will be ready early next week.

Very little second growth is being made by forage crops although sweet clover is still giving returns in the pasture experiments. The sweet clover seed crop will soon be harvested. Average returns are expected. There is also a possibility of some alfalfa seed on the thinner seedings.

Corn and intertilled crops are making normal growth although a good rain would be very beneficial

Mr. K. S. Quisenberry, of the Office of Cereal Crops and Diseases, has been doing work at this station during the week and will be here for the next ten days.

Maximum temperature 87; minimum 48; precipitation .03 inch.

HUNTLEY:

Light showers and cloudy weather early in the week were beneficial to crops not too far gone. Corn has freshened up considerably but sunflowers appear to have passed the stage where recovery could be made. Beans checked by the long drought have begun to make a second growth and comparatively few plants are setting pods.

Field work has consisted of cultivating fallow land and roads with the duckfoot and threshing out by hand a small supply of pure seed from the wheat varieties.

HUNTLEY, continued:

Station visitors included Mr. J. A. Clark, of the Cereal Office, President F. D. Farrell of the Kansas Agricultural College, and a party of agronomists from Russia who are touring the western states by automobile and visiting various experiment station enroute.

Maximum temperature 91; minimum 50; precipitation .17 inch.

SHERIDAN:

Cooler weather over the most of the week, with a shower .32 inch, helped the condition of corn and late forage crops considerably. Harvesting of small grain, except some of the later seedings, is being completed to-day, August 10. All summer fallow on the station was duckfooted during the week, except some duckfooted the first of the month for the variety and date seedings of winter wheat. Fallow has remained exceptionally clean since plowing. There was not enough rain to start any weed growth.

Maximum temperature 94; minimum 47; precipitation .41 inch.

DICKINSON:

Dry weather continued with temperatures about normal. This was the 6th week without significant precipitation and the soil is now very dry.

Grain matured rapidly and harvesting wheat, oats, and barley on the rotation and tillage plots was finished.

Field peas and grass varieties were threshed on August 10. Pea yields were a little below average, but were good for the season, the Kaiser variety making 12.0 bushels of seed and 1430 pounds of hay per acre.

Brome, crested wheat grass, and slender wheat grass grown in rows yielded at the rate of 290, 319 and 276 pounds of seed as it came from the machine. The yield of hay was a little more than a ton per acre when grown in rows and only about half that amount from the broadcast plantings. A total of 3000 pounds of crested wheat grass seed was threshed from increase patches.

DICKINSON, continued:

Plowed fallow on the rotations was cultivated with the duckfoot for the second time on August 7.

Visitors included Dr. L. R. Waldron, Plant Breeder, North Dakota Experiment Station; Mr. C. H. Plath, Superintendent of Hettinger Substation; Mrs. Marion Griffith Zehner, Assistant Pathologist, Cereal Smut Investigations; Dr. John H. Martin, Agronomist, Grain Sorghum and Broomcorn Investigations; Mr. J. A. Clark, Senior Agronomist in charge Western Wheat Investigations, all of Cereal Crops and Diseases.

Maximum temperature 91; minimum 44; precipitation Trace.

MANDAN:

Agronomy

The past week has been cool with a light rain which was of some value to corn.

Harvest of small grain was completed during the week. The second crop of alfalfa along the coulee was cut. The yield of hay will be light. There was not enough alfalfa on the higher land to cut.

Corn made little progress during the week. The chances for a corn crop are poor. A number of plots have dried up beyond recovery.

Maximum temperature 94; minimum 53; precipitation .41 inch.

Cooperative Grazing Experiment

The cattle on the 30-acre pasture show a light gain so far this month, but have very little to eat. The prairie is very dry and fire would run on it readily. A few prairie fires have been reported.

Horticulture

Golden currants and sandcherries are now being picked. The former are doing very well, and appear to be one of the most drought resistant of the small fruits. Yellow Transparent apples are almost ready to pick. They are smaller than usual this year.

MANDAN, continued:

Horticulture, continued.

The second cultivation and hoeing of orchards and nursery has been completed.

Budding is now in progress in the nursery. Due to continued dry weather neither cions nor stocks are in the best of condition, so it is doubtful if stands will be as good as usual.

Visitors of the week included Mrs. Marion A. Griffiths Zehner, Cereal Smut Investigations, Prof. L. R. Waldron, North Dakota Agricultural College, Mr. L. S. Mathew, Extension Forester, Bottineau (North Dakota) School of Forestry, Dr. J. H. Martin, Grain Sorghum Investigations, Mr. R. H. Black, Grain Cleaning Investigations, Bureau of Agricultural Economics, Mr. W. M. Hurst, Farm Machinery, Bureau of Public Roads, Mr. F. E. Cobb, State Forester, Bottineau (North Dakota) School of Forestry. A group of five Scientists led by Mr. S. G. Ujansky, Professor of Agricultural Economy, Moscow, U.S.S.R., and about 250 farmers from Iowa, under direction of Mr. J. P. Wallace, Publisher, Wallace Farmer.

BELLE FOURCHE:

Moderate temperatures have prevailed during most of the week, and the nights have been comparatively cool. A rain of .64 inch precipitation, and several light showers were received. The rain and cooler weather afforded temporary relief to intertilled crops and slightly prolonged the ripening of spring wheat, but the soil was too dry for the moisture received to be of any material benefit to corn.

Spring wheat was cut during the week, and harvesting of all small grain is now completed. Other work included duckfooting of fallow, disking of green manure plots, and distribution of poison bait for grasshoppers.

Maximum temperature 94; minimum 52; precipitation .78 inch.

ARDMORE:

Temperatures during the week were more moderate than during the preceding weeks. Thunderstorms were frequent, though only two reached the field station. The total from the two rains was .79 inch.

Corn continued to fire during the early part of the week. Rain on August 6 and 7 checked the firing temporarily, but by the end of the week the corn was again curling badly. Unless good rains are received during the next few days some of the fields of corn must be cut for silage.

General field work consisted of baling straw, hauling manure, and plowing.

Maximum temperature 96; minimum 52; precipitation .79 inch.

CENTRAL GREAT PLAINS FIELD STATION:

Five thousand seven hundred and five pounds of oat hay were cut on Section 8, and stowed in the barn.

Fifty one and one half pounds string beans were harvested from the vegetable garden and turned over to the mess. All root crops are looking well and there is an even chance that a good crop of tomatoes will be harvested before frost.

The three-car garage in the rear of the staffhouses is finished except for concrete floor and doors to be hung. A four-car garage in the rear of the bunkhouse is ready for shingling.

The old fence about Section 16 has been removed and the fencing crew is at work on the south side of Section 8.

The teams, and tractor with rotary fresno, have been engaged the past week leveling the ground between the superintendent's residence and staffhouse No. 1, preparatory to excavating for the basement of staffhouse No. 3.

Twelve inch corrugated iron culvert pipe has been placed at various points in the roads within the station.

CENTRAL GREAT PLAINS FIELD STATION:

Mr. W. L. Quayle, Director of Experiment Farms, Wyoming College of Agriculture, called on August 6, and Mr. R. L. Parshall, Senior Irrigation Engineer, Bureau of Public Roads, stationed at Fort Collins, Colorado, visited the station August 9.

Maximum temperature 84; minimum 52; precipitation .30 inch.

ARCHER:

The weather has been cool with rain, fog, cloudiness and heavy dew. The last two days have been clear. The total precipitation during the week amounted to .93 of an inch. These conditions have greatly helped the pastures and the immature crops such as corn, beans, potatoes, sunflowers and millet. While most of the spring cereals were nearing maturity the moisture will, no doubt, help in making a better grade of grain.

Harvesting has proceeded as rapidly as possible. Forty acres of barley in the dairy field have been cut and more winter wheat plots are being cut. Land from which winter rye and winter wheat were harvested for hay is being listed to kill weed growth. The oats and wheat on the Dry-Land plots are about ready for harvest. The early varieties of barley and oats are mature.

Maximum temperature 84; minimum 50; precipitation .93 inch.

AKRON:

Slow drizzling rain amounting to 1.32 inches falling during the night of Monday, August 5, prevented threshing and most types of field work until well towards the end of the week. No effort was made to thresh on Monday, all teams and men being directed towards weed control measures. While the ground was too wet for other work the station force was sent out with hoes to fight the ever present weed. The row crops in the general forage variety experiment were hand hoed and freed of Pig weeds almost as high as the crops themselves. The rotation and rotation extension corn plots were hoed to free them of escaped Pig weeds. The orchards were cultivated and hoed and by this week-end present their usual clean appearance. This undoubtedly has been one of the worst fall weed infestations experienced by the writer. Among the row crops it is the Pig Weed (Amaranthus) and not the Thistle that is giving the most trouble.

AKRON, continued:

Winter wheat varieties threshed last Saturday, August 3, yielded according to prediction. Fallow plots yielded from 11 to 15 bushels per acre and cornland plots from 2 to 6 bushels per acre. The best yielding varieties were Turkey Selection 3055-159, Kanred Selection 0166, Kanred, Blackhull, Oro, and Tenmarq.

The rate and spacing corn project winter wheat was threshed yesterday. Yields ran progressively upward from 4.1 bushels per acre on the corn spaced 44"x12" to 6.0 bushels per acre on the corn spaced 44"x36". On corn spaced 88"x12" the yield was 5.6 bushels per acre. In this experiment, two plots each, wheat following potatoes averaged 12.9 bushels, following hay millet 5.3 bushels, following sorgo 5.4 bushels, and following beans 6.6 bushels per acre, respectively. The heaviest yield of wheat thus far threshed was at the rate of 17.3 bushels per acre on a plot which grew cucumbers last year.

All row crops (and weeds) continue to make unprecedented progress. Corn now promises one of the heaviest yields within recent years, Red Amber sorgo on the rotation plots, seeded June 3, is now in full head.

Yellow Transparent apples are ripe and yields promise to be from 1 to 2 bushels per tree. Sheep and hogs were weighed during the week.

Maximum temperature 94; minimum 67; precipitation 1.34 inches.

NORTH PLATTE:

Weather continues dry and hot. Corn on the D.L.A. plots has burned very badly and will make a very short crop even if it were to rain immediately. Field work for the week consisted largely of cutting weeds. The irrigation plant has been in continuous operation.

Maximum temperature 96; minimum 54.

COLBY:

This has been a showery week with not much rain falling at the station, but with some rather heavy rains in the vicinity. In most of the surrounding country the surface soil is wet enough for plowing and other tillage operations, and the corn seems to have enough moisture for the present. Here at the station, however, we are needing moisture.

COLBY, continued:

The sorghum crops were cultivated during the week. Feterita is beginning to head.

Maximum temperature 96; minimum 57; precipitation .33 inch.

GARDEN CITY:

All row crops have nearly finished heading this week. Some are hurt because of lack of sufficient moisture. Feterita is maturing rapidly and suffering some damage from birds. Forage sorghums are standing hot weather better than grain sorghums and is making very good growth, especially those on fallow land.

Corn is fired badly on some plots. All lister planted plots are far behind surface planting in growth and stage of development.

The last part of the week has been rainy and cloudy. The fore part of the week was hot and very dry. On August 8, .42 inch of rain fell. on August 9, .20 inch and at the present time, Saturday afternoon, August 10, a good shower came. Surface soil is moist and crops look much better after the rain of the last few days.

Maximum temperature 103; minimum 57; precipitation .62 inch.

TUCUMCARI:

Four showers the past week registered a total of 1.03 inches, practically the same as the total for the months of June and July. Very little of this moisture was lost and it is likely it will prove of considerable benefit.

Milo is in nearly full head, most corn plots are tasselled, while a limited amount of kafir is headed. Unless sorghum suckers have moisture and time to mature, yields promise to be low.

Completion of plant counts, considerable cultivating, drilling of a small strip of Sunrise kafir after the showers, and planting Sudan grass on a "blow" area constituted the work of the past week.

Maximum temperature 96; minimum 58; precipitation 1.03 inches. Wind velocity 4.2 miles per hour. Total precipitation 1929 to date, 7.63 inches, compared with 24-year average of 10.90 inches.

DALHART:

On five nights of the past week rains of .61 of an inch or more were received. These five rains totalled 4.12 inches of precipitation. The ground is now thoroughly soaked and, barring unexpected adverse weather conditions, the grain sorghum crop is now practically assured. These rains were fairly general, though apparently we received as much or more as the surrounding country. Crops throughout this portion of the Panhandle, as observed in trips taken during the week in the several directions, are in excellent condition. All sorghum and corn fields have excellent color. Several instances of corn showing drought injury previous to the rains were noticed. This is also true for the station corn. No fields of sorghums were noticed where drought injury had been at all severe. Our later sorghums are just now beginning to head.

Field work, except the first of the week, was out of the question. Some fall listed plots were worked level after the first rain, which came the night of August 3. The late seeded, replanted, listed sorghums were also worked at that time. General weed clean up work was the main work accomplished. Sparrow shooting was continued daily throughout the week.

Maximum temperature 94; minimum 59; precipitation 4.12 inches. Wind velocity 4.5 miles per hour.

BIG SPRING:

Another week of dry, hot weather has added its toll to that of the previous one. Temperatures ranging from 98 to 101 degrees have prevailed every day during the entire week. These high temperatures together with hot winds have caused nearly all feed crops to suffer severely. Cotton continues to bloom freely, which would indicate that it is not suffering very much as yet.

The first two dates of Feterita were harvested this week. All cowpeas in the rotations and increase fields were also cut this week. Although very few peas had set on, the leaves were drying up very fast. Other work consisted of cultivating cotton and picking peaches and grapes.

Maximum temperature 101; minimum 68; precipitation none.

LAWTON:

Crops have suffered greatly the past week, due to the severe hot weather and hot winds, especially so with the grain sorghums date of seeding test. On August 8 it was necessary to harvest some of these varieties, as plants were lodging very badly. Foliage was completely burned up due to severe damage by chinch bugs and hot winds.

Broom corn in the M. C. project was harvested during the week. Yields were very light and of poor quality due to heavy chinch bug injury. All crops show need of rain.
Maximum temperature 106; minimum 71.

WOODWARD:

This part of the country was relieved from the hot, dry weather of the past three or four weeks by a rain of 1.50 inches occurring early on the morning of August 7. On Monday, August 5, the temperature reached 107, and one of the hottest winds experienced here in many years occurred on that date.

Although some of the earlier row crops had been damaged somewhat by drought, the later plantings are, as a rule, developing satisfactorily. Most sorghums on the station are heading, and show promise of making good yields. Farmers over the country are busy preparing land for wheat.

Station work for the week consisted of picking tree fruit and grapes, grading and repairing roads that were washed out by rain, and policing up the station in general.
Maximum temperature 107; minimum 60; precipitation 1.62 inches.
Wind velocity 5.8 miles per hour; evaporation 2.243 inches.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

AUG 17 '29

REPORT FOR THE WEEK ENDING AUGUST 17, 1929.

HAVRE: (Report for the Three Weeks Ending August 17, 1929)

Weather during the last three weeks has continued generally dry and very favorable for harvesting and threshing. A local shower amounting to .78 inch accompanied by some hail fell on August 6. This was very limited in area. The hail caused slight damage to corn. Practically all of the grain was harvested at that time so there was very little damage to that crop.

Threshing has been in progress during the last week and is practically completed now with the exception of some of the varieties. The following gives a brief summary of the yields from the rotation field for this year.

	Highest		Lowest	
Winter wheat	14.5	Fallow	4.5	Fall plowed
Spring wheat	18.7	Fallow	4.5	MCE
Oats	35.6	MCD Fallow	6.7	MCBb Fall plowed
Barley	30.8	MCDb Fallow	5.6	MCE

Weather continues very dry for corn and it is hardly probable that there will be grain this year. Range grasses are very dry and in many places there is grave danger of prairie fires.

Combining and threshing is very general over this section of the state and yields of spring wheat range from 2 to 18 or 19 bushels.

The harvest season is generally much fartner advanced than usual and another week of good weather and most of the combining will be done in this immediate section.

Grasshoppers are increasing quite rapidly, especially on the irrigated lands and on alfalfa fields. They are causing very serious damage on alfalfa left for seed.

Maximum temperature 99; minimum 46; precipitation .96 inch.

PENDLETON:

The harvesting is still going on at the station with the yield not quite as high as was expected. Almost the entire station was seeded to Hybrid 128 this first year. The yield varies from 38 to 45 bushels per acre. Most of the farmers have finished their harvest, and find that Federation out-yielded the Hybrid by several bushels.

PENDLETON, continued:

The Superintendent's house is being rushed to completion. The hot water heating system was installed this week. Lathing and plastering is under way.

It has been very hot and dry the last two weeks. The termperature here was about four degrees cooler than that taken by the Forestry Department in Pendleton, a distance of ten miles.
Maximum temperature 99; minimum 44.

JUDITH BASIN:

One day during the week the temperature equalled the maximum for the season. The remainder of the week was warm, dry and windy.

Combining of winter wheat is practically completed in the Basin, with average yields being obtained. Spring wheat harvest is in progress with seven to twelve bushels per acre being reported from fields that have been threshed.

Harvesting of all small grains is nearly finished at the station. Spring wheat on the rotations and varietal experiments is being threshed, returning ten to fourteen bushels per acre yields from the better methods. Poor yields of low quality grain will be produced on continuous cropping and other poor methods.

Grasses and clover for seed have been cut. Alfalfa will not produce a second crop worth harvesting. The second cutting of sweet clover was light. Cows were moved from the pasture experiments to increase fields on August 15 as all crops had been grazed to capacity.

Visitors during the week included Mr. E. J. George, of the Mandan Station, and Mr. H. R. Sumner, of the Northwest Crop Improvement Association.
Maximum temperature 99; minimum 42; precipitation none.

SHERIDAN:

Hot weather prevailed over the most of the week. Corn on some of the plots began to fire, with the ears mostly in the roasting ear stage. Close seeded sorgo also began to fire during the week, but most crops seem to be standing the dry weather quite well.

Peas were threshed early in the week. Those in the plots, following a small grain crop, yielded slightly above the station average, but not as good as in the past few years. Seed blocks on fallow yielded poor. Considerable work was necessary in overhauling the grain separator before threshing of grain could be started. The winter wheat in the rotations, and the remainder of the Kharkof on the station, and a part of the oats in the rotations were threshed the last of the week. Yields have not been calculated, but the winter wheat ranged from about nine bushels to the acre on Rotation 571, continuously stubbled in, to about 35 bushels on fallow. Yields on the continuous cropped plots, except MCF and 571, apparently were above the average for those plots. The oats threshed so far are running around 40 bushels to the acre, and of good quality, with the variation between tillage methods apparently less than usual.

Maximum temperature 99; minimum 47; precipitation none.

DICKINSON:

Threshing of wheat on the rotation and tillage experiments was finished to-day. Twenty-five plots on the main field averaged 14.1 bushels. These same plots in 1928 averaged 26 bushels, and during the 21-year period 1908 to 1928 the average was 18.1 bushels.

Yields after the tillage methods were as follows:

After fallow	18.8 bushels.
After disked corn	14.5 bushels.
After green manure	13.3 bushels.
After spring plowing	13.2 bushels.
After fall plowing	11.9 bushels.

Nearly all the wheat threshed was low in weight per bushel, ranging from 52 to 60 pounds with an average around 55 pounds.

A few reports on protein received by the mill and elevators in Dickinson show the samples ranged from 12.3 to 17.6 per cent protein. To-day's local price for wheat is $1.20 per bushel with an 8¢ premium on 14 per cent protein or above.

DICKINSON, continued:

Dr. G. A. Studensky, Moscow, Russia, interested in Farm Economics, visited the station August 14.

Maximum temperature 96; minimum 38; precipitation .02 inch.

MANDAN:

Agronomy

The past week has been very favorable for field work, especially for threshing, which has been in progress every day of the week.

Wheat in the rotations turned out much better than it seemed possible with continuous dry weather since June 1. The yields in the Main field run from nine bushels per acre on fall plowing in the continuous cropping, to 26.5 bushels on manured fallow. The average yield per acre was 18.3 bushels. Disked corn land made 18.6, fall plowing 14.6, spring plowing 18.2, fallow 21.3, green manure 21.8, sub-soiling 9.2, listing 12.8, duckfoot fallow 16.5, disked potatoes 23.2. Wheat in the south field run from 0 on fall plowing to 12.3 on fallow. The quality of the wheat was very good. It would grade No. 1 Amber Durum. It weighed from 60 to 63 pounds per bushel, which was much higher than expected.

Oats was a poorer crop as compared to wheat. It averaged 26.1 bushels per acre in the Main field, running from 6.6 on sub-soiling to better than 40 bushels on manured fallow. Disked corn land made 28.5. In the South field the yield was 0 on fall plowing, sub-soiling and listing, to 27 bushels on the best fallow. The oats weighed from 32 to 36 pounds per bushel.

Barley in the Main field made from 9 to 25 bushels per acre, with an average of 17 bushels.

Winter rye averaged 19.9 bushels per acre, with 30.9 bushels on fallow.

Feed fields are being threshed to-day. All threshing will be completed early in the week, with the exception of some alfalfa which may make seed.

MANDAN, continued:

Agronomy, continued.

All varieties of grains and flax ready for threshing were completed during the week by the Office of Cereal Crops and Diseases.

The temperature dropped to 36 degrees on the night of August 13. Frost damage was reported from the lower ground along the river, and corn was killed in the coulee on the station. There was no damage to corn or sorgo on the higher land.

Alfalfa second cutting, along the coulee, was hauled in. It made better than half a ton per acre on the average, and better than a ton in the best part.

Corn continues to make a little progress, and the chances are there will be some seed, but the yield will be light.

Rainfall for the month has been .61 of an inch. Maximum temperature 97; minimum 36; precipitation Trace.

Cooperative Grazing Experiment

Pastures are very dry and the chances are that cattle gains for August will be below normal as the flies are also very bad. The 30-acre steers are losing in weight fast, but will not be ready to move until early in the week. The rotation steers were moved on to the last division of their pasture during the week.

The native hay in the mowing experiment, was cut and hauled during the week. The yields were the second lightest that have been obtained since the experiment started. The units cut each year averaged 172 pounds per acre, and those cut every two years 568 pounds per acre. The 9-year average is 331 pounds and 772 pounds per acre. The normal rainfall of April and May made the grass as good as it turned out. The hay was completely dry when weighed.

Horticulture

Budding of apples and plums in the nursery was completed on August 16. Stocks and cions were comparatively dry, so a good rain would be very beneficial to the newly budded material.

MANDAN, continued:

Horticulture, continued.

Golden currants, chokecherries, sandcherries, and Prunus tomentosa, have been picked during the week. The golden currants are up to their usual standard of quality, while the other fruits seem to be more adversely affected by the dry weather.

Yellow Transparent apples and a few early plums, are now ready to pick.

A considerable number of farmers from other States have visited during the week. Many of them sought information on the growing of crops in this area. Most of these visitors were from further east and south.

ARDMORE:

Hot days and cool nights have prevailed throughout the week. A hot wind on August 15 with the maximum temperature reading 104 degrees caused some damage to field crops.

All flax plots on the main rotations and the variety test, the delayed seeding wheat plots, and about 35 acres of oats were threshed during the week.

Approximately 30 acres of corn were cut for silage. The average yield was 4235 pounds green weight per acre.

The steers in the 80-acre pasture were weighed three consecutive days and turned into the 320-acre reserve pasture. A loss of 38.7 pounds per head was recorded at the end of the 15-day period from July 30 to August 15. The amount of vegetation removed from the 80-acre pasture by the steers was estimated at 90 per cent. The steers made an average gain per head of 128.7 pounds during the 85-day period from May 22 to August 15.

Mr. Stenhouse, official photographer for the Bureau of Dairy Industry, was at the station photographing cattle during the week.

Maximum temperature 104; minimum 47; precipitation Trace.

CENTRAL GREAT PLAINS FIELD STATION.

Three tons of hay have been cut on the east edge of Section 16 and is being put in the barn.

Twenty pounds each of new potatoes and turnips were dug in the garden, Section 8, and turned over to the mess.

The 4-car garage in the rear of the bunkhouse is finished, and doors were hung in the messhouse and staffhouse garages.

Excavating for the basement of the third staffhouse was completed to-day and forms are being placed for the concrete walls.

Carpenters are putting insulating material in the headhouse and windows and doors in the south side. Electric wiring is being put in. A "dry" cistern has been dug just outside the south center of the building to take care of waste water from the boiler.

The fencing crew has been engaged throughout the week setting fence posts on the south line of Section 8.

Two teams and tractor with rotary fresno have nearly completed the grading about the staffhouses.

On August 13, Mr. R. L. Parschall, Senior Irrigation Engineer, Mr. Carl Rohwer, Associate Irrigation Engineer and Mr. Maxwell Parschall, all of Fort Collins, arrived at the station and went over the possibilities for a reservoir to impound waste water from the City's filter plant at Roundtop. Mr. R. L. Parschall returned to Fort Collins in the evening, the others remaining to work out the details.

Mr. Wm. DuBois, architect, went over the work on August 13.

Messrs. R. L. Parschall and W. W. McLaughlin, Associate Chief, Division of Agricultural Engineering, went over the irrigation possibilities the afternoon of August 16.

Maximum temperature 90; minimum 49; precipitation .03 inch.

ARCHER:

The weather has been warm and dry. Moisture received during the preceding week has been used by the crops. The corn is rolling badly and the sunflower leaves are drooping.

Work at the station has consisted of harvesting grain crops and mowing millet in the experimental field. All the wheat and oats on the Dry-Land plots have been cut. All the barley varieties, half of the oat varieties and a portion of the oats in the dairy field have been harvested. Preparation for silage work is in progress.

Maximum temperature 94; minimum 48; precipitation Trace.

AKRON:

The week has been favorable for all types of field work. Threshing was completed except certain late seeded plots of the date of seeding spring grains experiment. Yields were well below the average verging in many cases on complete failure.

Early soil preparation of the rotation cultural plots was started this week-end. Soil is plowing moist leaving the soil in excellent tilth, due probably to the timely disking immediately after the harvest.

It looks now like a good crop of corn, beans, hay and grain millet, Sudan, and sorgo is assured regardless of future rains. Corn is now in the roasting-ear state and not as yet showing the need for more moisture. The surface soil, however, is becoming dry and a good general rain will be needed before germinated stands of fall grain can be assured.

Okabena, Red June (possibly Red Astrakan) Oldengurg and Yellow Transparent apples are ripening or are ripe and the yields are good. The fruit, however, is badly pitted due to hail injury.

The first date seeding of the combined rate and date experiment with winter wheat was made on August 16. Prospects are not bright for an emerged stand unless surface rains are received.

Maximum temperature 100; minimum 52; precipitation none.

NORTH PLATTE:

Early fall plowing on the D.L.A. project was completed during the week.

Corn has suffered considerable damage from the prolonged drought and hot weather. On some of the rotations it is almost entirely dead.

On Monday and Tuesday, August 12 and 13, about fifty bushels of early Triumphs potatoes were dug and shipped to Bermuda for experimental plantings.
Maximum temperature 103; minimum 42.

COLBY:

This has been another almost rainless week. The nights have been much cooler than any previous week this summer, and some of the days were quite cool, but the last three have been unusually hot. Friday was the hottest day of the year thus far. All crops are beginning to wilt badly again. On the fall plowed corn plots, even the outside rows are practically dried up. The corn on listed plots and MCD is fairly well eared.

The Russian thistles and other weeds were hoed out from the edges of the stubble plots during the week.
Maximum temperature 104; minimum 49; precipitation .07 inch.

GARDEN CITY:

Fallow plots were forkner cultivated the past week. Quite a bit of weed growth had started following the rains last week and the fore part of the past week. Roadways have been graded for fall. General cleaning up of the project has been in progress the past week, such as hoeing weeds, cultivating alleyways and getting ready for field day which will be held on September 5.

Since the rains cowpeas are making exceptionally good growth. In another week they will almost cover the ground. Crops look as though they may produce good yields this year on better methods of handling. Row crops on fallow plots are making exceptionally good growth, especially is this true of forage sorghums.

GARDEN CITY, continued:

Milo and kafir are heading good. The recent rains have helped them in this respect.

Sudan grass in rows and drilled is making good growth. To-day, August 17, we will plow under for green manure the Sudan on Rotation 299. It was planted July 1 and now is approximately 30 inches high.

Weather the past week has been cool and pleasent. Friday, August 16, was the first hot day we have had for nearly two weeks, the thermometer reaching 102. Nights are cool. We have had scarcely any wind. The wind was hardly noticeable on some days.
Maximum temperature 102; minimum 55; precipitation .58 inch.

TUCUMCARI:

Crops are holding up remarkably well, considering the severity of the drought, but anything like normal yields now seem out of the question. Corn is especially injured, while cowpeas promise to make low hay yields. Milo and kafir still have possibilities, but rain is urgently needed.

Practically all of Quay County has been unusually dry this summer, but many localities have received heavy rains this month. While some neighborhoods are in worse condition than the locality near Tucumcari, much of the county is more favored. Surrounding counties have all received much more rainfall.

Early August rainfall permitted the plowing of the wheat and rye plots, this week. All crops have been cultivated, fallows worked, two varieties of cowpeas harvested, and the early date of Sudan grass cut. Pears and grapes have been picked during the week.

Variety grain and forage sorghum plots are very uneven and spotted and many are in a very critical condition. Rotation milo is in full head and looking surprisingly well. Rotation kafir is spotted and many plots show some headed plants adjacent to small, dwarfed plants not over a foot high.

TUCUMCARI, continued:

Since records were begun in 1905, there has been no season so low in precipitation for the period April 1 to August 17, as the present year.

	Jan. 1 - Aug. 17	Apr.1-Aug.17	May 12-Aug.17.
24-year average	11.60 inches.	10.07 inches.	7.79 inches.
1929	7.67 "	5.25 "	2.60 "
Deficiency	3.93 "	4.82 "	5.19 "

Maximum temperature 98; minimum 58; precipitation .03 inch.
Wind velocity 3.7 miles per hour; evaporation 2.243 inches.

DALHART:

The weather remained favorable for field work during the week, but the heavy precipitation of the past week prevented tillage work. Work for the week consisted principally of hoeing weeds in fence corners, hauling manure, rogueing sorghums, shooting sparrows, taking soil samples and finishing bagging of sorghums.

Sorghums are growing nicely on all preparations and on all dates. Soil moisture samples taken on the MC series showed that the precipitation received the previous week had penetrated into the sixth foot. The early milo and kafirs are coloring the seed now.

The soybean nursery certainly looks fine. All varieties are very promising now. The cotton is setting bolls and bids fair to make a creditable crop. The three earliest varieties of grapes have been picked and good yields were secured. The largest yield per vine to date of the varieties picked has been 56 pounds of grapes.

The cowpeas are putting forth vines now and have considerable growth. Pinto beans are blooming again since the rains and should give good yields.

The field corn has about reached the roasting ear stage on the project.

Maximum temperature 93; minimum 55; precipitation .41 inch.
Wind velocity 3.3 miles per hour; evaporation 1.801 inches.

BIG SPRING:

The dry, hot spell which has continued for the past month was broken on the night of August 12, when 1.69 inches of rain were received. Maximum benefits were not received from this rain for a large amount of runoff took place. This rain was very local in character and as a result a large part of the county is still dry. Although most of the plots are responding to moisture, some of them were too far gone when the rain came.

Corn in the rotations and the MCA, F, and G plots were cut during the week. All that there was to harvest on these plots were the stalks as no ears had developed. The third date of feterita, the fourth date of Sudan, and a plot of Red Amber sorgo were harvested. Other work during the week consisted of plowing under cowpeas for green manure and disking roadways.

Maximum temperature 101; minimum 68; precipitation 1.69 inches.

LAWTON:

All crops are in need of rain. On the night of August 11 we had .25 inch of rainfall, but was so small in amount it was hardly noticeable on August 12.

It was necessary to harvest quite a few more of the grain sorghums this past week. Plants are drying up and lodging very badly, due to severe damage by chinch bugs and dry weather conditions. Cotton has begun to show deep need of rain. Some of the early date plantings are shedding some fruit.

Maximum temperature 102; minimum 69.

WOODWARD:

Since the rainy period of last week, crops have made a rapid growth and are heading very satisfactorily.

Station work for the week consisted of rogueing and cultivating sorghum crops, cultivating sorghums on the Cereal project, plowing rotations and cowpea plots, picking fruit, and planting alfalfa.

Maximum temperature 101; minimum 59; precipitation .31 inch.
Wind velocity 4.9 miles per hour; evaporation 2.119 inches.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

AUG 24 1929

REPORT FOR THE WEEK ENDING AUGUST 24, 1929.

HAVRE:

The past week has been warm and dry and threshing has gone ahead almost uninterrupted. The plots are completed and the general fields are now being threshed.

Prospects are now that there will be a few plots of corn that will mature grain. This will be mostly on continuous corn and fallow. Certain sections of the field where there is more or less gravel show more damage than lower ground.

The following is a summary of the yields of small grains for the past year:

	Spring wheat	Oats	Barley
Average of all plots	11.4	19.4	16.8
Average of fallow	17.1	29.8	27.5

Harvesting will be practically completed in this section of the state next week. Grain that has been headed remains to be threshed.

Professor Clyde McKee, of the Montana Experiment Station, was a station visitor during the week.

Maximum temperature 97; minimum 46; precipitation Trace.

JUDITH BASIN:

One storm, which varied from a trace to one-half inch precipitation in the various parts of the Basin, came early in the week. Crops were harvested or were too far advanced to benefit from these showers. It served to lessen the long drought and lowered temperatures were recorded for a few days. The latter part of the week was warmer with high evaporation.

Practically all grain crops in the Basin are harvested, with low yields being obtained on spring crops. All major crops are threshed on the station. Spring wheat, oats and barley returned low yields with the better cultural methods having a marked advantage. Crested wheat grass is producing a low yield of light weight seed.

JUDITH BASIN, continued:

Corn is showing need of more moisture but is withstanding the drought in good condition in comparison with other crops.

A fair crop of sand cherries and choke cherries is being harvested from the orchard plantings. The older plums and apples will produce a light crop this season.

Conifer and shelterbelt plantings are surviving in good condition.

Professor Clyde McKee, of the Montana Experiment Station, visited the station on August 22.
Maximum temperature 91; minimum 43; precipitation .04 inch.

HUNTLEY:

Threshing of the dry-land crops was completed on August 19. As expected, yields of all grains and flax were extremely light, and the quality was poor.

Corn, beans and potatoes have dried up to the extent that it is doubtful if rain would be of much help to them. Sorghums are still green but have made no growth for some time. Alfalfas and grasses are burned dry and some of the latter in the pasture plots appear to be dead.

Hogs in the pasture experiments were moved from the plot of Sudan grass and soybeans to the plot of sorgo and soybeans. The soybeans in the second plot have set a fair amount of seed, which with the sorgo should furnish palatable grazing for about two weeks.

Visitors during the week included Mr. J. A. Clark, of the Cereal Office, and Director Linfield, of the Montana Station.
Maximum temperature 96; minimum 47; precipitation none.

SHERIDAN:

The weather still continues warm and dry. Corn is beginning to mature, without serious firing. The yield probably will be light, however, as the ears appear to be small. The condition of late forage crops still remains good.

SHERIDAN, continued:

Threshing was continued throughout the week. Threshing of all plots was completed except the varieties of barley and a part of the varieties of oats. Yields of all grains were above expectations, but those of spring grain were somewhat below the station average, while with winter wheat the average yield was a fraction of a bushel above the average for the station. Yields in the rotation field were as follows, yields of other plots not yet being computed:

	Winter wheat	Spring wheat	Oats	Barley
Fall plowing, late only	23.3	17.5	38.6	24.0
Spring plowing		16.6	34.3	35.5
Disked, after small grain	13.0		22.9	
Disked, corn ground	35.3	17.9	38.6	39.0
Fallow	33.3	22.9	45.8	45.0
Low yield	571- 8.3	MCF- 9.7	576-15.6	MCA-10.7
High yield	118-38.8	570-27.3	MCD-54.7	MCD-45.0
Average for rotations	26.7	19.4	37.5	31.0

Spring grain yields were quite variable for the same tillage treatment and within the same section of the field where yields generally have been fairly consistent.

Superintendents E. F. Chilcott, of the Woodward Station; and O. R. Mathews, of the Ardmore Station, and Mr. Russel, of Swine Investigations, were station visitors this week.

Maximum temperature 96; minimum 46; precipitation Trace.

DICKINSON:

Hot, dry weather continues with no effective precipitation so far in August. All vegetation now shows effect of drought. Corn has held up well considering the very dry soil but has wilted badly on hot days. It is now past the roasting ear stage of development with only a light crop indicated of grain and silage.

Threshing of the rotation oats, barley, and flax was finished early in the week. Yields of all these crops were well below average and the grain light in weight.

DICKINSON, continued;

Threshing of all cereal varieties was completed. Durum varieties of wheat yielded less than most of the common wheats.

The first ripe plums were picked August 19. Sapa and Pembina plums, the earliest to ripen this year, had only a light crop and the fruit was of poor quality for the variety. Most of the fruits are only about half the size of last year.

Visitors included Mr. J. T. Sarvis, Associate Agronomist, of the Mandan Field Station, Mr. O. R. Mathews, Superintendent of the Ardmore Field Station and Mr. K. S. Quisenberry, Associate Agronomist, Cereal Crops and Diseases.

Maximum temperature 102; minimum 43; precipitation none.

MANDAN;

Agronomy

The past week has been dry, and several days were hot. There was no rain of value to crops.

Threshing was completed early in the week. Oats in field P made 23 bushels per acre.

Corn has dried up more, and will soon be ready to cut. There will be some mature corn.

Maximum temperature 101; minimum 46; precipitation .20 inch.

Cooperative Grazing Experiment

Pastures remain dry, but are not much worse than for sometime, as the grass is about as dry as it can get.

The 30-acre steers are still holding their own on the pasture, without any visible supply of feed, except very short grama grass.

The Fifth Annual Grazing tour was held on August 18. Over a dozen Animal Husbandry workers, who were on their way to the Annual Conference at Miles City, Montana, stopped at Mandan and put in most of the day going over the pastures.

MANDAN, continued:

Horticulture

Early blight on apple and crab trees is still much in evidence, and considerable time has been spent this week on cutting out affected parts.

Early varieties of plum and sandcherry hybrids, Duchess, Yellow Transparent apples, and a number of crab varieties, were picked during the week. The crop in general was light and of poor quality. White Arctic crab seems a very promising variety for this section. It is early, extremely firm, and of nice size for a crab. The Florence crab trees again are loaded. They are coloring up well at the present time, and will be picked next week.

Tomato selections in the breeding project have been made, and seed of 115 strains washed and put away for further use. The main picking of tomatoes was completed during the week. A total of 45 bushels were secured. The quality is much inferior to other years due to considerable sunscald.

The late planting of Sunshine and Golden Bantam sweetcorn varieties are at present in the roasting ear stage. The quality and yield is the best of any date of planting this year.

Visitors of the week included Mr. O. R. Mathews, Superintendent, Ardmore Field Station, Mr. E. F. Chilcott, Superintendent, Woodward Field Station, Dean Coffey, Minnesota University; Messrs. E. W. Sheets, D. A. Spencer, E. Z. Russell, Thomas H. Bartilson, R. E. Hutton, (Miles City) Bureau of Animal Industry; Messrs. L. B. Burk, R. D. Jennings, E. J. Maynard, M. B. Johnson, (Spearfish) Bureau of Agricultural Economics; Mr. B. F. Brandon, Superintendent Beltsville Field Station, Maryland; Mr. C. V. Pickrel, Extension Animal Husbandry; Messrs. A. W. Oliver, E. L. Potter, Asst., Animal Husbandry, Agricultural College, Corvallis, Oregon; Mr. Lewis Vinke, Asst., Animal Husbandry, Agricultural College, Bozeman, Montana, and Messrs. John H. Shepperd, and D. G. Griswold, Agricultural College, Fargo, North Dakota.

BELLE FOURCHE:

The weather has been unseasonably hot, and practically no precipitation was received. Corn is drying up but the grain is fairly well dented and the ears are of average size. Considering the dry, hot weather which has prevailed the past six weeks, a remarkably good yield of corn will be produced.

The remainder of the thrashing was completed during the week. The yields of all crops and the quality of grain were above average. The lowest, highest, and average yields, and the average weight per bushel for each crop were as follows:

	Minimum Yield	Maximum Yield	Average Yield	Average Weight Per Bushel.
Spring wheat	17.2 bu.-CC-A	37.3 bu.-Rot.15	28.1 bu.	60 lb.
Winter wheat	17.5 " CC-F	48.3 " CC-D	33.6 "	62 "
Winter rye	23.0 "Rot.411	34.3 " Rot.410	28.0 "	56 "
Oats	33.4 " CC-A	73.8 " Rot. 31	57.0 "	33 "
Barley	21.7 " CC-A	54.8 " CC-D	36.3 "	52 "

Visitors during the week were Mr. E. Z. Russell, of the Bureau of Animal Industry, and Mr. O. R. Mathews, Superintendent of the Ardmore Field Station. The Second Annual Sugar Beet Tour, comprising approximately 150 farmers, visited the station on August 24 and inspected the experiments with sugar beets.

Maximum temperature 98; minimum 54; precipitation .03 inch.

ARDMORE:

Hot and sultry weather continued during the week. There were three periods of precipitation with a total too small to be of but little benefit to crops.

Some trees in the shelterbelt and those growing on the station yard began to show drought injury during the week. Leaves on Ash, Box elder, and Northwest and Silver leafed poplar were beginning to wither and fall off by the middle of the week.

About 40 acres of corn and 15 acres of sorgo were cut for ensilage. The yield of corn was less than a ton green weight per acre. The yield of sorgo was approximately three and a half tons per acre.

Maximum temperature 101; minimum 52; precipitation .18 inch.

CENTRAL GREAT PLAINS FIELD STATION: (Cheyenne, Wyoming)

Nine and one-half tons of native hay from the east side of Section 16 were stowed in the barn.

Concrete basement walls and partitions for staffhouse No. 3 were run and the forms removed to-day, August 24.

Stairs have been built in the headhouse, the insulating quilt was put in place and ceiling the walls with fir flooring is about half completed.

It has been necessary to lower the sewer line about a foot from a point opposite the clerk's cottage up to the last staffhouse. This work will be finished early next week.

Messrs. Carl Rohwer and Maxwell Parschall, Irrigation Engineers of The Bureau of Public Roads, finished their preliminary survey of reservoir site and irrigation lines and returned to Fort Collins, Colorado, August 23.

Mr. L. L. Zook, Associate Physilogist, North Platte, Nebraska, visited the station August 21.

Mr. E. F. Chilcott, Woodward Field Station, enroute from Mandan, North Dakota to Woodward, Oklahoma, arrived late August 23 and will spend a day or two at the station.

Maximum temperature 84; minimum 55; precipitation .93 inch.*

* Reported by Weather Bureau in Cheyenne, Wyoming. Scarcely a trace of this fell at the station.

ARCHER:

During the past week the weather has been even in temperature, rather humid with four showers totaling .93 of an inch of precipitation. This broke the drought and put the soil in good shape for fall seeding. The precipitation helped the sunflowers, corn, millet and potatoes. Most of the other crops were too near maturity to receive much benefit from the rain. Winter wheat seeded August 15 is up.

ARCHER, continued:

Work at the station has consisted of harvesting oats in the dairy field and some of the cereal plots. To-day, August 24, the grain binder broke, causing a delay in the harvesting of the varietal plots. Threshing has been started and the Dry-Land plots to be seeded to winter wheat are being prepared. During the time the fields were too wet for work machinery was repaired, and the final work in the completion of the remodeled house was finished and Mr. Hudson has moved in.

Maximum temperature 86; minimum 54; precipitation .93 inch.

AKRON:

The early fall preparation of the rotation plots was completed and the soil left in good tilth for later fall seeding. The last of the threshing was completed with the threshing of the late sown plots of the date of seeding spring grains experiment. Other work consisted of odd jobs, fighting weeds and repairing fences.

The week passed without rain though the week-end witnessed local showers to the southwest and northeast of the station. Surface soil is very dry and rains will be needed to insure fall germinated stands of winter wheat and rye. Winter wheat seeded August 16 on fallowed land is emerging spottedly.

The pigs are being weighed this week-end preparatory to marketing early next week. The dry lot bunch of 17 pigs average approximately 230 pounds while the pasture lot of 20 pigs average only approximately 221 pounds. These pigs started the experiment May 6 averaging approximately 68 pounds.

Heads in the sorghum nursery are being bagged for seed purposes and for the purpose of isolating new strains. The early sorghums are practically all in head by this week-end. There is only fair prospect of maturing them this fall.

Maximum temperature 97; minimum 57; precipitation none.

NORTH PLATTE:

Dry weather continues. Several fair rains have occurred in the vicinity but the part reaching the station was very meager.

One silo has been filled with corn from fields which, on account of slope, were not very thoroughly irrigated. The third cutting of alfalfa is now being put up. The crop is light. Weather conditions are favorable for alfalfa seed development, but grasshoppers are so numerous that it seems inadvisable to leave any of the crop for seed purposes.

Early fall plowing on the D.L.A. plots, after considerable difficulty, has been completed. It will not be possible to work the clods down into a good seed for fall seedings until moisture is received.

COLBY:

No precipitation has fallen this week and rather high temperatures have prevailed. It was a very hard week on the corn crop. The surface planted plots have all practically dried up, and none but the fallow plots promise any corn of consequence. On the fall plowed plots most of the stalks never even tasselled. The corn on the commercial field and some of the varieties are still holding their own fairly well.

Some of the kafir and milo plots are beginning to wilt considerably. None of the sorghums are fully headed, and on some of the listed plots only a few heads are showing.

In the surrounding country some of the fields on lower ground, or where the conditions were unusually favorable, promise a fair yield. Most fields, however, have practically dried up without setting on ears.

Maximum temperature 103; minimum 59; precipitation none.

GARDEN CITY:

Weather has been very dry the past week. No rain and a little bit above the average amount of wind. Sorghums are beginning to curl badly. Corn is losing the lower leaves. Cowpeas are ripening fast and will be cut next week. Sudan hay was cut the past week.

GARDEN CITY, continued:

Birds are causing some damage in grain sorghum plots. Shooting at them seems to do little good. They are right back in a short time.

We have planted the first date of planting of winter wheat. These dates start August 20 and run until Novermber 10. The past season the first two dates of planting, ten days apart, were very thin and yielded about one-half what the normal date of planting did.

Maximum temperature 103; minimum 62; precipitation none.

HAYS:

The past week has been dry and hot. Temperatures have ranged between 64 and 106 degrees, the maximum having run near or above 100 several days. The highest loss of water from the evaporation tank during the week was .513 inches.

Corn is in the roasting ear stage and kafir and milo for most part is in the head. These crops and all feed crops are suffering severely from drought and heat. The crops on fallowed ground are suffering least, while, generally, the crops on spring plowing are suffering most, although fall plowing usually suffers about the same as spring plowing, for the row and feed crops.

In the seedbed preparation of wheat stubble land for kafir, Rotations 501 to 510, the thinnest and poorest kafir is on Rotations 510 and 505. On these plots the germination was poorest and the growth has been slower than on other plots. The kafir on these plots is not more than 25 per cent headed, while on other plots it is from 90 per cent to 100 per cent headed. Milo is especially good on fallow. It appears to be making better use of stored moisture in fallow than either corn or kafir. The milo is somewhat in advance of the kafir and will mature earlier.

Seedbed preparation for winter wheat continues. One plot each of listing, plowing, one-waying, and chiseling was done August 20, a part of the date test for these implements. A number of plots were surface worked for the destruction of volunteer wheat and weeds.

HAYS, continued:

Considerable work has been done reopening drainage ditches and grading against ends of plots to prevent the loss of soil from the plots. Some of the rains of a few weeks ago moved a great deal of soil. Maintaining of plot levels and adequate drainage requires considerable attention at this station. The roads (most of which are used as drainage for the plots) are being prepared for the seeding of oats to prevent washing on the steeper slopes and soil blowing during the winter and early spring.

A large number of soil samples were taken during the week. The sorghum crops have been rogued for the second time. We are having protein determinations made on samples of wheat from practically all of the wheat plots in the project. Some of this work was done immediately after harvest, but most of it is being this week in the laboratory at the Hays Teachers College.

TUCUMCARI:

Work the past week has included harvesting increase Sudan grass, rotation plots and some of the variety cowpeas, roguing plots and bagging heads, bird shooting, hauling manure, and placing woven wire around young trees and grapes. Rabbits have begun their attack on trees and grape vines, some two months earlier than usual. Birds were never more numerous or persistent in this locality.

Crops over the county are very spotted, since rainfall has been very local throughout the summer. While the entire county has received less rain than usual, some neighborhoods have fared much worse than others.

Station corn is depreciating steadily. Kafir is uneven and spotted, with perhaps only 50 per cent in head. Milo is surprisingly even and well headed, but there are practically no suckers and the yield will be considerably below the long-time average. This is the only crop which now promises better than a 60 per cent yield. Cowpeas made light yields, while cotton yields will depend entirely upon fall temperatures.

TUCUMCARI, continued:

Precipitation in August to date totals 1.09 inches, following .70 inch in July, and .38 inch in June.

Maximum temperature 97; minimum 60; precipitation .03 inch.
Wind velocity 4.3 miles per hour; evaporation 2.189 inches.

Precipitation 1929 compared with 24-year average:

	Jan. 1-Aug.24	Apr. 1-Aug. 24	May 11-Aug. 24
24-year average	12.27 inches.	10.73 inches.	8.31 inches.
1929	7.69 "	5.28 "	2.63 "
Deficiency	4.58 "	5.45 "	5.68 "

DALHART:

A rather quiet week, meteorologically and otherwise, has just come to a close. The week's weather has been characterized by low wind movement, livable temperatures, low evaporation, and no precipitation. Field crops continued normal development.

Milo, except on late seeding, is well seeded. The kafir rotation plots are headed, heading, or parts of plot heading. The milo was headed or nearly so when the rains came the first of August. A few kafir plots were heading at that time. Those that were not apparently decided to grow some more before heading. Pinto beans have not set on so very well. Soybeans are immense. Cowpeas are vining and making more growth. Melons sufferred before the rains and now are not so very promising. Grape picking is in progress and good yields are being secured.

The fallow and fall plowed plots were cultivated during the week. Some weeds were mowed. Some additional sorghums were bagged and those bagged earlier were labelled and the bags removed during the week. Roguing of sorghums has continued. This latter has been a continuous job for several weeks now. Some cowpea seed was picked from the earlier varieties during the week. Manure was hauled from the lots and the first cuttings of Sudan grass were hauled in and weighed.

Maximum temperature 94; minimum 57; precipitation none.
Wind velocity 3.4 miles per hour; evaporation 1.777 inches.

BIG SPRING:

Hot, dry weather has prevailed to such an extent during the past week that the rain of the week previous did not relieve conditions to the extent that it should have. Much of the stuff revived for a short time but is now wilting as badly as ever.

Some of the early maturing grain sorghum varieties were harvested during the week as were also some of the early dates of milo. Other work has consisted of hauling in Sudan hay and cowpea hay from the increase fields. Some of the cowpea hay from the plots was also hauled. The fallows in the rotations were disked and some apples and pears were picked.

Maximum temperature 98; minimum 64; precipitation none.

LAWTON:

Since July 30 there have been 17 days when the maximum temperature has been 100 degrees or more, the highest being 106 to date. Precipitation from July 20 to August 24, inclusive, was .25 inch. This period of heat and drought has inflicted serious damage to cotton and feed crops. Pastures are brown and livestock men are also feeling the effects of drought.

Cotton continues to bloom but the squares are shed each day. Except on very early plantings there are from 2 to 5 bolls per plant. The plants are badly wilted and stunted in growth. A few early bales are being ginned.

Grain sorghums that were planted April 15 matured a pretty good crop in most instances. The later plantings require harvesting before the grain is mature because of excessive lodging. This is also true on the rotation plots where the planting was unavoidably late on account of wet weather in the spring.

Cowpeas matured a very good crop before the drought became so severe. Soybeans that were planted June 11 have made a very fine growth and continue to make a good showing. Only a few of the varieties are shedding foliage at present. It is not likely that any seed will be produced.

LAWTON, continued:

The grain sorghum chinch bug nursery has developed some very striking comparisons. Very few of the hybrids, especially those containing milo, were able to make much development. Spur Feterita, as in the past, is far superior to common feterita. Several of the kafir varieties are also doing nicely.

Several farmers visited the station on August 23.

WOODWARD:

The weather during the past week has been very hot and dry, with maximum temperatures ranging from 101 to 105 for the past nine days. Crops are suffering from the drought and further preparation of wheat land over the country is dependent upon rain.

Station work consisted of cultivating cotton, disking orchard, nursery, and vineyard, miscellaneous hoeing, and picking fruit.

Maximum temperature 105; minimum 71; precipitation .01 inch. Wind velocity 7.9 miles per hour; evaporation 3.066 inches.

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WEEKLY STATION REPORTS

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U. S. DEPARTMENT OF AGRICULTURE

REPORT FOR THE WEEK ENDING AUGUST 31, 1929.

HAVRE:

The week has been dry and unusually warm for this season of the year.

Threshing is completed on the station and is very well along in this vicinity. Corn is maturing quite rapidly, but the yield will be light on most plots with very little on fall plowing.

Mr. F. M. Harrington, Head of the Horticultural Department at the College, and Mr. Max Legge, County Extension Agent of Blaine county, were visitors at the station during the week.

Maximum temperature 98; minimum 49; precipitation none.

HUNTLEY:

The continued hot and dry weather of the past week put the finishing touches to all crops with the exception of sorgo. Corn in the rotations and variety tests was cut with the grain binder as the stalks were too short to be handled well with the corn binder. Yields of ear corn will be extremely light on the best methods of production and absent on other plots. Sunflowers were also harvested with the corn binder. This crop has been dried up for some time.

Most of the bean plantings have dried up without setting seed. A light yield may be obtained from the wide spaced rows in the width of row experiment, but the closer rows will produce nothing this year.

The Annual Project Fair is being held at the station to-day. The scarcity of entries from the surrounding dry-farming section and the poor quality of such late crops as corn, melons and potatoes being exhibited from the irrigated farms clearly show the type of season.

Maximum temperature 98; minimum 51; precipitation none.

SHERIDAN:

The weather continued hot throughout the week. Threshing of all plots except flax was completed early in the week. Dakota Amber sorgo and Sudan grass were cut for forage, and some of the ripest plots of corn in the rotations are being cut to-day. Corn ripened fast during the last few days. The crop finally has ripened fairly well with but little firing. The flax in the rotations was cut early in the week, at the same time as the forage crops. Threshing of fields for bulk seed and feed also was completed except for one field of winter rye and a field of flax.

Maximum temperature 96; minimum 55; precipitation Trace.

MANDAN:

Agronomy

The past week has been similar to most of the season; dry with several hot days.

Corn was cut during the week. The rotations were cut early in the week, and the continuous cropping is being cut to-day. The fall plowed plots will produce no ear corn, while the spring plowed plots will make a fair yield for the season. Seed corn is being picked to-day. An ample supply of good seed will be obtained.

About three acres of hillside alfalfa was broken up. It had been used as a seed block, but had thinned out until weeds caused a good deal of trouble in the field. It was very difficult plowing, but a complete kill of alfalfa should be obtained.

The total rainfall for August to date has been .81 of an inch. The months of June, July and August total 3.00 inches, which is the lowest for these three months since the station started. For the same months in 1894 the record at Bismarck was 2.48 inches. The second lowest at the station 1919, when the total was 3.19. The total precipitation for the year to date is 10.01 inches, as compared with the normal of 11.85 inches for the same period.

Maximum temperature 95; minimum 47; precipitation none.

Cooperative Grazing Experiment.

The cattle made fair gains for the month of August, except those in the smaller pastures. The 30-acre steers still show very little loss. It will be necessary to keep them in the pasture a few days longer until they show a marked loss.

MANDAN, continued:

Cooperative Grazing Experiment, continued.

The four brome-grass steers show a slight loss for the month. There are still a good many stalks of brome left in the pasture, but it is so hard and dry that the cattle will not eat it. The four steers were turned with the other eight brome steers, and the whole bunch now have access to the small native reserve pasture.

The cattle made the following gains for August and for the season to date:

Pasture	No. Steers	Gain in pounds per head. August	105 days.
100-acres	10	42.0	292.5
70-acres	10	56.0	307.5
50-acres	10	28.5	269.5
30-acres	10	- 1.0	144.0
Rotu (70 ac.)	14	49.6	250.6
Brome (25 ac.)	8	48.8	261.3
Brome (10 ac.)*	4	- 2.5	238.8

* Formerly the sweet clover pasture.

Horticulture

Soil coverings around the season's budded stock were removed during the early part of the week. So far indications are that a good stand was obtained.

Fruit picking is on in full blast. Compass cherries, early plums and crabapples, are being picked. The crop is very heavy on the Compass cherries, but the quality is not very good, due to drought and a severe infestation of red spider. The Florence crab is again producing a heavy crop, especially on top-worked trees. The apples, while slightly undersize, are of good quality.

Growth of nearly all vegetables is practically at a stand still. Tomatoes are ripening but are rather small. Melons are ripening up. Some selections of mushmelons are again being made.

It has been necessary to irrigate the lawns again, no rain being received during August.

MANDAN, continued:

Arboriculture

The conifer nursery has been irrigated during the past week. Hoeing has been carried on in the testing blocks.

The Shelterbelt inspectors have all returned, and the summer's inspections are completed. Mr. Harold Borresen returned August 19; Mr. J. L. Emerson, August 24, and Mr. E. J. George, August 28. Extremely dry conditions were encountered in all sections of the territory. Trees, however, appear to be withstanding the drought in excellent condition.

Mr. J. A. Clark and Mr. A. C. Dillman, from the Office of Cereal Crops and Diseases, were visitors during the week.

ARDMORE:

The weather during the early part of the week was cool, but the latter part was hot and dry. There were four periods of precipitation. One violent thunder storm on August 28 had a rain fall of .50 inch. Lightning hit the mess hall during the storm doing little damage other than knocking off about 100 shingles.

The fall plowing of plots began on August 26 and ended on the 31st, with the exception of the corn and sorgo plots that still have crops on them.

All sorgo plots and small fields were harvested on August 29 and 30. The harvesting of corn plots began on the 31st.

Other field work consisted of baling and storing straw and cleaning up the dead wood in the shelterbelts.
Maximum temperature 96; minimum 57; precipitation .52 inch.

CENTRAL GREAT PLAINS FIELD STATION: (Cheyenne, Wyoming.)

The third staffhouse has been framed, the subfloor was put in and roof rafters were placed.

Workmen finished lowering the sewer line from the connection in front of the clerk's cottage to the last staffhouse and the trench has been filled in. The sewer line has been dug to staffhouse No. 3 but the connection has not yet been made.

Two teams and tractor with rotary fresno have been engaged in grading about the staffhouses the past week.

One team has been mowing prairie hay on Section 16.

Laborers have been engaged the past few days fencing the south side of Section 8.

Mr. A. L. Larson, assistant to Collaborating Lanscape Architect DeBoer, visited the station August 28, remaining over until the morning of the 29th.

Messrs. E. C. Chilcott and E. F. Chilcott left for Woodward, Oklahoma, August 27.

Maximum temperature 82; minimum 52; precipitation .35 inch.*

* Precipitation reported by Cheyenne Weather Bureau (very little of this fell at the station).

ARCHER:

The weather has continued warm, dry and at times humid. Rather heavy local rains have occurred, but only two light showers of .09 of an inch each were received at the station.

The crops of the 1929 season are about mature, therefore more rain would do but little good. Beans are ripening and the potatoes have about reached maturity. Corn is approaching the silage stage and the sunflowers are ready for silage.

Work at the station has consisted of finishing the harvesting of the cereals in the varietal experiment and the threshing of the barley and oats in the dairy field.

Maximum temperature 86; minimum 50; precipitation .18 inch.

AKRON:

A fine rain of 1.32 inches Tuesday night, August 27, brought the total rainfall for August to well over the 21-year average for that month and put needed moisture into the surface soil for fall wheat seeding. Undoubtedly, conditions will favor early September seeding this fall and preparations are being made to seed the rotation cultural plots next week.

Work during the week consisted largely of odd jobs such as repairing fences, grinding Sudan grass hay into meal, spike-tooth harrowing winter wheat and rye land, etc.

The hog millet variety experiment seeded July 5 was harvested August 31, ripe. The yields promise to be high on both fallow and small grain stubble.

The hogs were marketed Tuesday, weighing about 225 pounds. They were in very good condition and brought top price on the Denver market. Gains during the summer were very satisfactory, the pigs having been started May 7 at an average weight of about 68 pounds. Given a free choice the pigs took about 16 to 18 per cent ground barley and from 82 to 85 per cent ground hog millet. This confirms observations made last winter, which were that the ground hog millet was a very palatable feed for hogs.

Winter wheat seeded August 16 had not emerged to full stands previous to the recent rain. Preparations have been completed for making the second date seeding Monday, September 2.

Maximum temperature 93; minimum 57; precipitation 1.32 inches.

NORTH PLATTE:

The dry period was broken by a heavy rain storm on the night of August 27. The rain came in a heavy downpour and was very unevenly distributed. The North Platte Weather Bureau reported 3.85 inches, and the station bench and table gauges measured 2.85 and 2.50 inches, respectively. This is the 13th time in 22 years on the table that more than two inches of water has fallen in a single rain. Considerable damage was done by washing in roadways and on sloping plowed land. Some late corn will be benefited but most of that on the D. L. A. plots was too far advanced to be much effected. The chief benefit will be to pastures, forage crops, and in the preparation of land for fall seeding of small grain.

COLBY:

Beginning Sunday afternoon, August 25, this section of the country received several local showers which freshened things up considerably. However, the rains came too late to help the corn crop very much and were of not enough quantity in this immediate vicinity to relieve the sorghums and keep them growing thriftily for very long. The last two days some of the milo and kafir plots were wilting noticeably.

All of the surface planted plots of corn except MCD were cut during the week. The spring plowed plots had dried without setting on any ears to speak of, while the fall plowed plots dried up before more than a fourth of the stalks tasselled out. MCD still looks fairly promising but the listed plots will not yield much corn.

All the fall plowing after small grain for spring crop in the MC Series and Rotations 1 to 9 block was completed Thursday, August 29. The ground was moist to a depth of four inches, but at the seven-inch depth the ground was very dry.

Maximum temperature 101; minimum 55; precipitation .55 inch.
Maximum temperature for August 104.5; minimum 49;
Precipitation 1.11 inches; 41-year average 2.32 inches.

GARDEN CITY:

Cowpeas on the various rotations were cut and shocked the fore part of the week. They were beginning to lose a few leaves and had formed small pods. In this condition they will make good hay. The general work on the station has been directed towards getting ready for the field day, September 5. A few weeds had to be hoed out of alleyways and fences.

Row crops are heading fast and some are well along towards maturity. Corn is firing and some stalks look completely dead. The second date of wheat seeding was planted to-day, August 31. Seedbed was dry and it is doubtful if any germination will take place until we get rain. Late planted sorghums grown for forage and drilled on seedbed preparation studies are growing well with the exception of a few of the poorer methods.

Temperatures the past week have been in the nineties. No extremely hot weather has occurred. The nights are cool.

Maximum temperature 99; minimum 58; precipitation .10 inch.

HAYS:

Temperatures have not been so high during the week as during the preceding week, but row and feed crops have continued to suffer severely. While the .48 inch rain improved conditions for surface tillage, it did not seem to relieve the suffering of the crops from drought.

Sumac sorgo was harvested August 30 in Rotation 58 and in a two-year rotation following wheat. The latter was drilled thick for a hay crop, while in Rotation 58 it was planted in rows and cultivated the same as the grain sorghums. It was interesting to note no lodging had taken place where sown for hay while in Rotation 58, 95 per cent of the sorgo was lodged beyond recovery. The lodging took place while the sorgo was badly wilted.

Corn is getting hard and will be ready for harvest within a few days. The yield of this crop has been reduced considerably by the August drought.

Kafir continues developing rapidly. Though pinched somewhat by the drought, most of the plots are very well headed, and the earlier heads are mature. There will be a very wide spread in the maturity of grain on the same plot due to suckers developing, some of which are now heading.

Considerable surface tillage was done during the week on wheat plots. Some of those one-wayed early were one-wayed the second time to destroy a second crop of volunteer, and the ground was packed after the one-way. This ground appears to be in excellent condition for seeding, but perhaps no better than some of the early plowing and listing. Other plots were cut with sweeps to finish destruction of weeds or volunteer.

The block of wheat stubble on Rotations 551 to 560, carrying a heavy growth of volunteer, was cut with the one-way to destroy the growth before plowing late this fall. A block of stubble in the same condition in field C was given the same treatment. This block is to be fallowed.

Another date listing, plowing, one-waying, and chiseling was done during the week. Wheat stubble plot in Rotation 503 was cut for a second time.

HAYS, continued:

More road and ditch work was done and oats drilled in same where necessary to prevent washing and soil blowing.

Chinch bugs are taking their toll on part of the milo plots. This crop is about ready to be harvested.

TUCUMCARI:

Rains amounting to .81 inch the past week have aided greatly in preparing wheat seedbed and should be of considerable benefit to row crops. Milo is maturing, with prospect of about two-thirds normal yield. Kafir is late and spotted, while corn is poor. Cotton is very small, but well loaded, although late. Cowpeas have been harvested, with low yields.

Work the past week has included stalk counts, picking and harvesting cowpeas, the first pulling of broomcorn, and bagging heads. Maximum temperature 95; minimum 60; precipitation .81 inch. Evaporation 1.693 inches. Seasonal precipitation to date, 6.09 inches, compared with 11.39 inches for the 24-year average.

DALHART:

Two rains which totalled 1.12 inches came the middle of the week. These rains kept everything in good growing condition. It is now reaching the end of the season without actually recording any drought injury to any crops this year. Yields would undoubtedly have been larger had the precipitation been more uniformly distributed. Total precipitation recorded for August to date is 5.66 inches. This makes the yearly rainfall approximately 1.20 inches more than the 24-year average.

Field work during the week has consisted of pulling broomcorn, picking grapes, fixing engines and pumping water, mowing roads, and removing a fence from around a blueweed area. Some weeds were hoed around the trees and in ornamental plantings.

Last week we failed to mention that cotton web-worms completely defoliated the cotton on Wednesday and Thursday, August 21 and 22. Bolls were well set on the May 1, 10 and 20 dates-of-seeding.

DALHART, continued:

Grape yields, in the main, are running higher than last year.

Maximum temperature 93; minimum 57; precipitation 1.13 inches.
Wind velocity 3.0 miles per hour; evaporation 1.582 inches.

BIG SPRING:

Dry, hot weather has continued to prevail during the past week with the result that all feed stuff and cotton continue to deteriorate. Considerable cotton throughout the county is opening prematurely. Many of the farmers, who have started picking, are obtaining lint of very poor staple; so short in fact that in some instances buyers hesitate to bid on it. Many of the fields will probably be pulled rather than picked this year, for the bolls are so small and knotty that the seed cotton is extremely hard to pick.

Some of the station cotton is opening and the leaf worm is working on parts of it. Some wide row cotton and the June 15, and July 1 dates were sprayed with calcium arsenate for leaf worms. Other work has consisted of hauling in cowpea hay and picking cowpea seed; broomcorn brush was also pulled this week.

Maximum temperature 98; minimum 68; precipitation none.

WOODWARD:

The weather has been some cooler than the previous week, with considerable cloudy periods, but with little precipitation. However, crops seem to have held their own pretty well during the week.

Station work consisted of harvesting cowpeas, dusting cotton for leaf worm, pulling and seeding broomcorn on the Cereal Project, picking grapes, and several odd jobs about the station grounds.

Professor E. C. Chilcott, Head of the Office of Dry-Land Agriculture, and Dr. K. F. Kellerman, Associate Chief of the Bureau of Plant Industry, were station visitors during the week.

Maximum temperature 99; minimum 60; precipitation .16 inch.
Wind velocity 4.9 miles per hour; evaporation 2.012 inches.